The Internet of Lettuces: Legibility, Data and Alternative Food Networks

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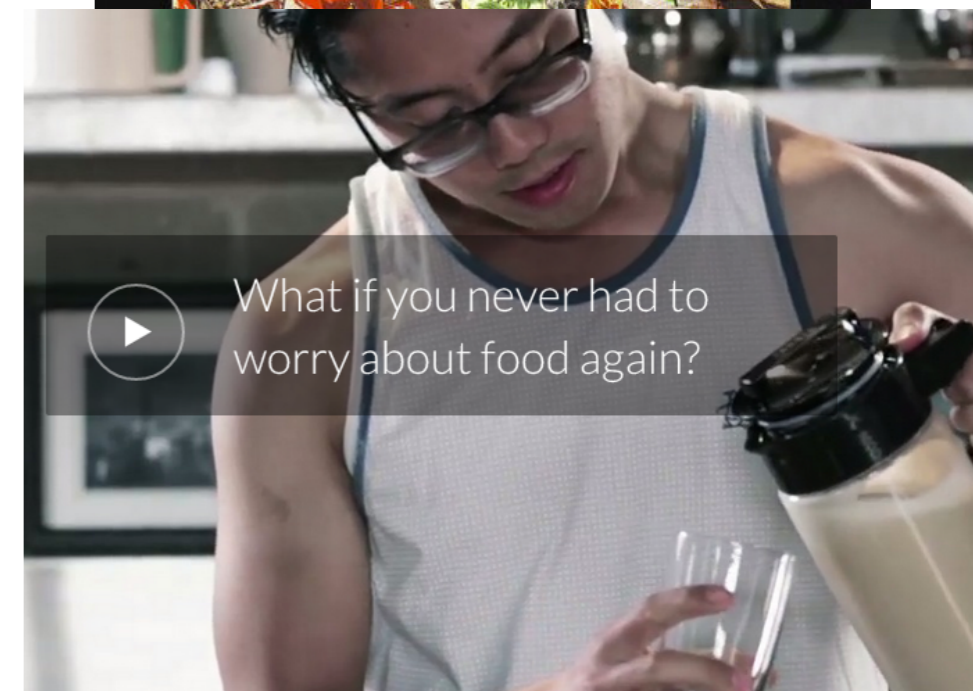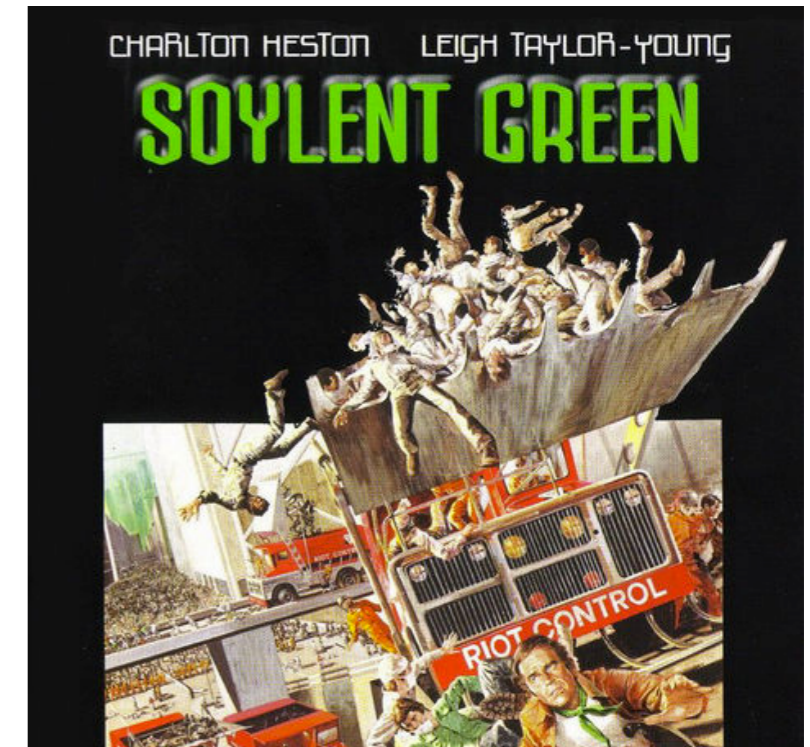
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Utopias and Dystopias
in the Future of Food

- Technology plays a major role in both utopias and dystopias

- In this talk we consider certain potential utopias and dystopias with regard to the food system

- Objective is to raise questions: Social, Philosophical, Moral and technological

- There are no easy answers

An Example Dystopia

- Dystopian Novel:

  - All food is the monopoly of one corporation — Growing your own food is illegal

  - All inhabitants are obliged to buy a certain amount of food

- Machine learning based predictions control population

- This may seem like an absurd dystopia ... but such visions have an unpleasant habit of turning into reality.

What if you never had to worry about food again?

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A "Smart" Utopia

- Work undertaken in projects like SmartAgriFood and FIspace (FP7 FI PPP projects)

- Developing a vision for integrating Future Internet technologies for data integration from farm to fork
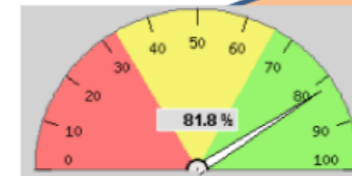
Logistics Intellige

Logistics Connecti

Real-time Virtualiz

INTERNET
PPP

A "Smart" Utopia (cont.)

- Key motivators for this vision are:

  - Need for tracking and tracing of food products

  - Huge inefficiencies in supply chain due to lack of data integration

  - Regulatory pressures to know more

  - Consumer pressures to know about the food and where it

  - Comes from — obviously linked to the resurgence of short chain/local/urban

https://flic.kr/p/aPsrw8

Findus
Deep Fill
Beef Lasagne

made with fresh pasta and beef bolognese, topped with béchamel sauce and cheddar cheese

Pack Size: 16 Hands

SERVING SUGGESTION

https://flic.kr/p/dT95gc

A "Smart" Utopia (cont.)


https://flic.kr/p/fKp6v5

- Technologies involved cover range of ICT:

  - On the farm: satellite imagery, drones, GPS controlled farm vehicles, data capture of each process (precision ag.)

  - In the logistics section: GPS controlled lorries, continuously monitored cold chains,

  - In the retailer: POS scanners, club cards, eye tracking, social media

Legibility

- "Legibility": Concept proposed by James Scott in "Seeing Like a State" (1998)

- Map, model or catalogue for the purposes of taxation, conscription, control

- Technology always tightly intertwined
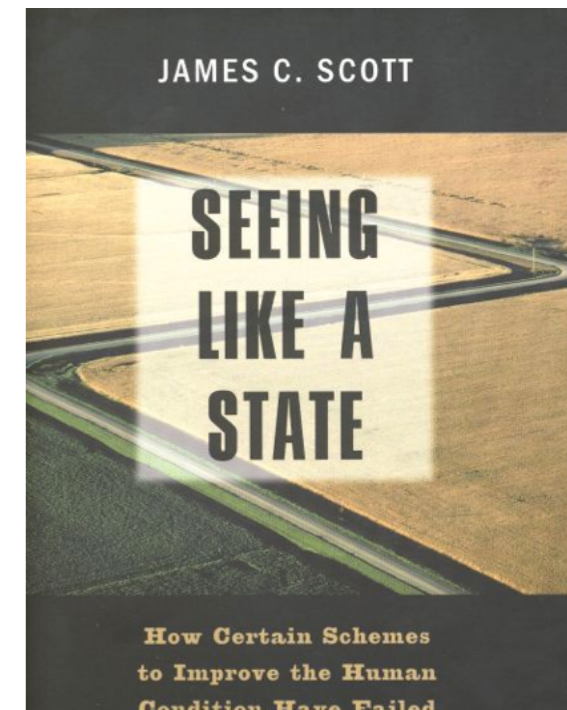
ICT and Legibility

- ICT is the ultimate expression of legibility

- smartphones, smart meters, automated number plate recognition, automated face recognition

- Surveillance state are dependant on our ubiquitous use of ICT

- They make us as individuals and our actions legible!

https://flic.kr/p/a58ct

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http://regmedia.co.uk/2013/09/06/samsung_galaxy_gear_3.jpg

Legibility and standards

- One "technology" that often results in greater legibility is standards

- For example, standardisation of weights and measures

- Equally standardisation of food hygiene

- Standards tend to favour big players vs. small players

- Standards are a challenge to AFNs (at all level)

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Ownership of data

- The key issue with ICT is **who owns the data**

- After all, need for data is what is driving a. regulatory, b. consumer, and c. business interest

- If data is held by one company (cf. Google or Amazon), or small number (e.g. seed retailers in world - Monsanto, Syngenta, Dupont), they control the market

- Data forms an essential part of these companies

amazon.com

MONSANTO

THE CLIMATE CORPORATION

Ownership of food data

- Equally possible in local and alternative food networks

- Note how people love "Amazon marketplace" ... but who owns the data?

- Data equals access to consumers

- AFN may wish to circumvent the system, but reality is they will still be part of the system (especially as they "scale up")

Cautionary Tales

- **Uber**, an example of an "alternative taxi networks" ... but hey one alternative taxi network.

- Competition will be eliminated due to network effect cf. impact of Amazon on online market for books/music/everything ... soon food

- result: one centralised organisation based in California potentially knows all about taxi rides in every city in world

http://i.telegraph.co.uk/multimedia/archive/02938/TAXI_STRIKE_PROTES_2938463b.jpg

The Problem of the Network Effect

- Network effect: occurs typically in social networks

- The more people use technology/system xyz, the more everyone needs to use it

- Implication for food system: concentration into few hands

- Question: How will AFNs avoid the network effect?

The Problem of Friction

- …or lack of it

- "Frictionless market" is one where "all costs and restraints associated with transactions are non-existent"

- Amazon for books, online shopping in general e.g. supermarket websites are extreme examples

- Supermarkets were fundamentally forerunners of "frictionless shopping"

Friction and Food

- Food needs friction.

- The introduction of friction increases meaning/ knowledge/appreciation == TRUST

- Using ICT **usually contradicts** the requirements of a sustainable food system

- Question: Can ICT support AFN by reducing the **right sort** of friction? An open question. No easy answers.

Trust - 1

Trust - 2

- More information, more data = more trust

Data as Infrastructure

- Data as commons (as open roads, as freely available water)

- Common data and Open Data provides an infrastructure for AFN

- Needs strong political, legal and regulatory safeguards

- Argument must be articulated for the open infrastructure

- otherwise the Smart Utopia may become reality ...

Open Data in AgriFood

- Strong movement around the world for more Open Data about Agrifood system e.g. GODAN, various Open Data portals (including UK)

- Dominated by "research data"

- Needs to extend to product and production data

- Business case is excellent even if radical

Global Consultation on Open Agricultural Knowledge for Development

Conclusions

- If we want AFNs, then:

  - Data must be a commons

  - Open data needs regulatory and policy support

  - ICTs need to choose HOW they make certain actions easier

The Internet of Lettuces: A Utopia

- In the Internet of Lettuces, the lettuces will speak

- I can find out where the lettuces are, who has them, ask/buy them

- I can ask the lettuce where it came from, how it was gown, was it a humane lettuce

- … possibly, just possibly I may then eat my local lettuce!

https://flic.kr/p/5zr1M

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Thank you

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